## REMARKS

Claims 1-5 are pending in the application.

Claims 1 and 2 are rejected as being anticipated under 35 U.S.C. § 102(b) by the newly cited reference to Swan, et al., U.S. 5,090,617.

Claims 1 and 2 also are rejected as anticipated under § 102(b) by the newly cited reference of Vision Scientific ($CO_2$ Incubator Model VS-9108MS.

As set forth in the Specification, the present invention is directed to a novel system for maintaining the $CO_2$ gas concentration in an incubation chamber at a pre-set desired level. This becomes a problem when the door to the chamber is opened and closed, particularly on a frequent basis. In prior art devices, when the correction was made to bring the pressure in the chamber back to the desired value, the gas supplied after the door was closed would often overshoot or undershoot the desired value. This caused inaccuracies in the specimens being processed.

To achieve a more constant level of $CO_2$ in the incubator, the present invention, as set forth in main claim 1, uses a control means for controlling the supply of $CO_2$ gas. The control means (PID controller) executes an operation of proportion, proportion and integration, or proportion and integration and differentiation on the basis of a deviation between the $CO_2$ gas concentration present in the incubation space as detected by a $CO_2$ gas concentration detection means and a set $CO_2$ gas concentration value set by a $CO_2$ gas concentration setting means to calculate a $CO_2$ gas supply time per unit time to the incubation space and a stop time, and supplies $CO_2$ gas to the incubation space from a $CO_2$ gas supply in accordance with the calculated supply time and stop time.

In applying the rejection based on Swan, the Examiner refers to a PID mentioned at column 1, lines 53-60, column 6, line 44 to column 7, line 50 and column 14, lines 49-68. The description at column 14, lines 49-68 gives the details of the operation of the PID. As set forth there, the PID operates so that a FLAG is turned ON (FLAG=ON) when the output is above 0, as shown in Step 426 of Fig. 3B. And in Step 438, Solenoid FLAG is set to FLAG (Solenoid

FLAG=FLAG). Namely, in the $CO_2$ incubator of Swan. The solenoid valve is opened to supply $CO_2$ when the output is above 0.

Therefore, in Swan, so the concentration of $CO_2$ goes over the set point for a time as shown in Figs. 7B-7D. When controlling the temperature, if the temperature goes over the set point, it can be decreased rapidly by turning off the heater. But when controlling the $CO_2$ concentration, the concentration cannot be decreased easily unless the door is opened.

Therefore in Swan it takes a long time to converge the $CO_2$ concentration to the set point. Namely in Swan the $CO_2$ concentration cannot reach a stable set point value rapidly in spite of using a PID controller to control the $CO_2$ concentration.

On the other hand, in the present invention, as set forth in claim 1 the PID controller is used to control the $CO_2$ concentration and setting the $CO_2$ gas concentration value by $CO_2$ gas concentration setting means to calculate a $CO_2$ gas supply time per unit time to the incubation space and a stop time, and supplying $CO_2$ gas to the incubation space in accordance with the calculated supply time and stop time, the $CO_w$ concentration will not overshoot the set point and be able to be converged rapidly to the set point ($CO_2$ gas concentration set value).

Accordingly, claims 1 and 2 clearly distinguish over Swan and have novel and advantageous characteristics. Therefore, these claims are patentable and should be allowed.

As to the §102(b) anticipation rejection based on the Vision Scientific publication, this refers on the second page to the PID controller in the following manner:

$CO_2$ Controller. Digital PID Controller, IR Swan

Such a sparse teaching of the PID without any disclosure of how it operates surely does not satisfy the requirements of a §102 rejection. There is no teaching of how the PID controller of the publication operates, and particularly no teaching of the subject matter of claim 1 of calculating a $CO_2$ gas supply time per unit time and a stop time. The Vision Scientific publication does not at all teach the manner of operation of the PID controller in the manner as set forth in claims 1 and 2. As set forth in MPEP 2131, to anticipate a claim under §102(b) the reference must teach every element of the claim. Clearly the Vision Scientific publication does not meet this criterion.

The PID controller of the publication might well only be programmed to operate in the same way as the PID controller of Swan, which as shown above is not the same as what is set forth in claims 1 and 2 of the application. Accordingly, claims 1 and 2 also patentably distinguish over Vision Scientific and should be allowed.

Claims 3-5 depend from claims 1 and 2 and recite further features of the invention. In view of the allowability of claims 1 and 2, these claims also are allowable.

It is requested that the subject application be passed to issue.

A protective Notice of Appeal also is being filed.

Prompt and favorable action is requested.

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Respectfully submitted,

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